



The Public Safety Threat of Drugged Driving

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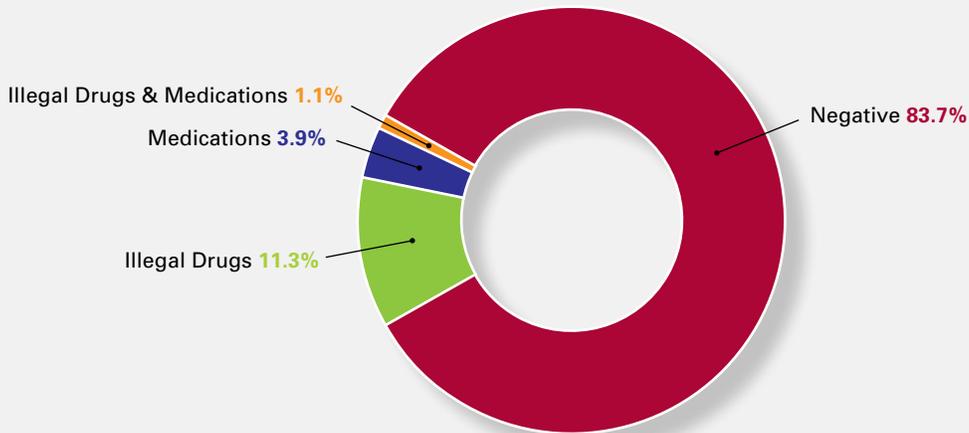
Impairment¹ from drug use is a serious threat to transportation safety. The term *drugged driving* refers to driving after the use of impairing substances other than alcohol or combined with alcohol. When alcohol is used alone, impairment is called *drunk driving*. Drugged driving is now occurring at a level comparable to drunk driving. Drug impairment can be caused by illegal drugs, misused prescription drugs either with or without a prescription, over-the-counter medications, and consumption of other chemicals (e.g., inhaling aerosol spray). Medicines, even when used as directed by the prescribing doctor, also can be impairing.

Drug-using drivers often use multiple drugs, including alcohol, in combination. Ample evidence shows that drunk-driving behaviors have dramatically declined over the past few decades, but recent research indicates the prevalence of drug use among drivers is increasing. To further complicate the issue, combining alcohol and drugs produces more pronounced impairment. The overlap of alcohol and drug use has important enforcement and policy implications. Law enforcement officers may correctly suspect drivers of being impaired by more than alcohol, but without drug testing, drivers with low blood alcohol levels who have also used drugs may go unprosecuted and their drug use remain unaddressed.

This drugged-driving fact sheet has been written for DWI (driving while intoxicated) and Drug Court practitioners. It reviews the basic facts about drugged driving and the implementation and enforcement of drugged-driving laws. The fact sheet discusses current information about drug testing technology. It highlights opportunities for public education and discusses the importance of amending highway safety practices and laws to empower law enforcement and the courts when dealing with drugged drivers. Although alcohol is a drug, for the purposes of this fact sheet, drugs will refer to all intoxicants not including alcohol. *DWI Courts* address traffic-related cases which may include both alcohol- and

¹ This document reflects the opinions of the authors and not those of the National Association of Drug Court Professionals.

Figure 1. Prevalence of Drug Use by Category among Drivers



Source: NRS: 2007

drug-impaired driving, whereas *Drug Courts* deal more generally with a variety of drug- and alcohol-related cases.

Drugs and Impaired-Driving Performance

The effects of drugs on the skills needed to drive vary depending on a variety of factors. The National Highway Traffic and Safety Administration in 2000 sponsored the development of *Drugs and Human Performance Fact Sheets*, which describe effects of individual drugs on driving, including psychological, physiological, and psychomotor (the relation between cognitive functions and physical movement) effects (Couper & Logan, 2014). Examples of the dangerous effects on driving include but are not limited to drowsiness, disorientation, poor judgment, reduced reaction time, distorted

distance estimation, poor concentration, limited impulse control, and erratic driving. The effects of a drug on a driver are markedly increased by drug-drug interactions, including alcohol.

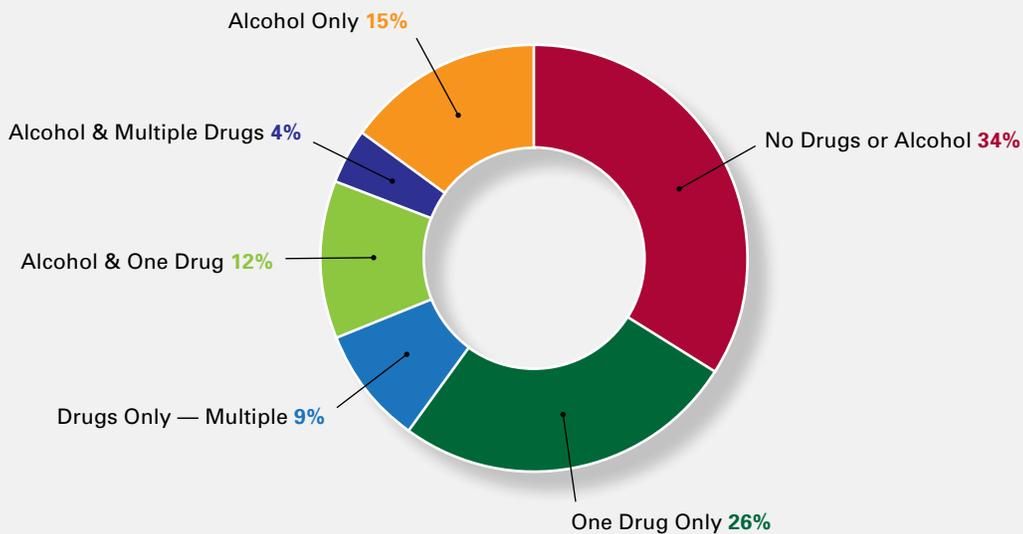
The Prevalence of Drugged Driving

The studies included here on the prevalence of drugged driving are a sampling of the large and growing body of literature on this subject.

The 2007 *National Roadside Survey of Alcohol and Drug Use by Drivers (NRS)*, released in December 2009, was an important turning point in the scientific approach to drugged-driving data collection. For the first time, randomly stopped drivers were tested for drugs in addition to alcohol. Although many more Americans self-report driving under the influence of alcohol

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Figure 2. Drug and Alcohol Use Among Seriously Injured Drivers



Source: Maryland Shock-Trauma Study (Walsh et al., 2005)

than self-report driving under the influence of drugs, the *NRS* and other research using toxicological testing demonstrate that the prevalence of potentially impairing drugs among drivers is similar to that of alcohol (SAMHSA, 2013). Among all weekend nighttime drivers in the *NRS* who provided oral fluid, blood, or both, 16% tested positive for illegal, prescription, or over-the-counter drugs (Lacey et al., 2009a). As Figure 1 shows, most of these drivers tested positive for illegal drugs (11%), medications (4%), or a combination of both (1%). The most frequently detected drug was marijuana, with 9% of all drivers testing positive, followed by cocaine at 4% and methamphetamine at one percent.

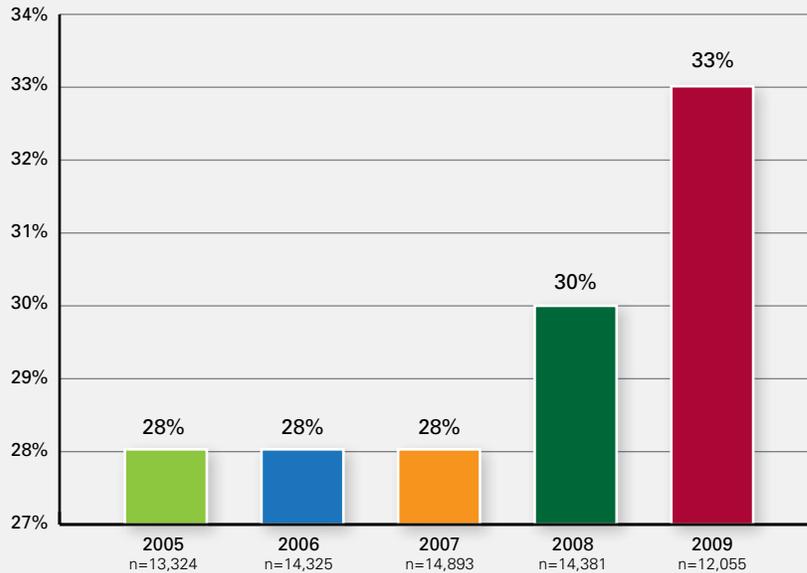
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While 12% of drivers identified in the *NRS* were positive for alcohol, 2% had illegal blood alcohol concentrations (BACs) at or above 0.08 g/dL. The prevalence of illegal BACs among drivers in the *NRS* has steadily declined 71% since the first survey administered in 1973 (Lacey et al., 2009b).

Although the presence of drugs (or alcohol) among *NRS* drivers does not indicate impairment, research has confirmed the distinct presence of drugs among impaired driving suspects. One U.S. study that evaluated the use of drug testing devices conducted screening tests on 800 samples collected from drivers arrested for impaired driving. The results showed that over one-third (36%) were positive for one or more drugs (Crouch et al., 2002).

Another U.S. study tested impaired-driving suspects for marijuana, cocaine, and opiates. In this study, 31% tested positive for drugs, 86% tested positive for alcohol, and 25% tested positive for both (Buchan et al., 1998).

Figure 3. Percentage of Fatally Injured Drivers Testing Positive for at Least One Drug



Source: FARS, 2005–2010 (Center for Substance Abuse Research, 2010)

Note: Nicotine, aspirin, alcohol and drugs administered after the crash are excluded.

Half (51%) of the drivers with BACs below the threshold of 0.08 g/dL tested drug positive; among drivers with BACs at or above 0.08 g/dL, 22% tested drug positive (Fix et al., 1997).

A significant number of drivers involved in motor vehicle crashes test positive for drugs and alcohol.

That a higher percentage of drivers with low BACs tested positive for drugs than drivers with BACs of 0.08 g/dL or higher is not surprising. Many drivers with low BACs are not demonstrably impaired by their alcohol use and thus they are not arrested for DWI, which reduces their representation in the sample. In contrast, drivers with low BACs who have also used drugs are identified as impaired because they are demonstrably impaired by the combined use of drugs and alcohol.

A significant number of drivers involved in motor vehicle crashes test positive for drugs and alcohol. A study of seriously injured drivers treated at a U.S. level-one trauma center showed 51% tested positive for drugs; about a third of drug-positive drivers also tested positive for alcohol (see Figure 2; Walsh et al., 2005). Marijuana was the most prevalent drug among drivers, 27%, followed by cocaine, 12%. More than one in ten drivers (11%) tested positive for benzodiazepines and 10% tested positive for opiates and other prescription drugs.

Drug and Alcohol Use Among Seriously Injured Drivers

The presence of drugs among deceased drivers suggests that drug use substantially contributes to deaths on our nation's roads. A study using data from roadside surveys and from fatal crashes showed that the drug use triples the risk of a fatal

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crash—a combination of drugs and alcohol produced *twenty-three times* the risk of fatal crash (Li et al., 2013).

National data on injuries and deaths from motor vehicle crashes comes from the Fatality Analysis Reporting System (FARS) conducted by the National Highway Traffic Safety Administration. Figure 3 shows drug use among drivers is increasing. In 2009, FARS reported one third of all drivers tested for drug use returned positive results for at least one drug (NHTSA, 2010).

State-based studies of fatally injured drivers present more dramatic findings. A study of 370 fatally injured drivers in Washington State showed that 39% tested drug positive, including 14% for depressants, 13% for cannabinoids, 10% for stimulants, and 3% for narcotic analgesics (Schwilke et al., 2006). Forty percent of drivers testing positive for alcohol also tested positive for drugs. Although most of the alcohol-positive drivers had illegal BACs, the percentage of these drivers who were drug positive (41%) was similar to the percentage of drivers with BACs under 0.08 g/dL who were drug positive (43%). The data suggest that even among legally impaired drivers (those at or above 0.08 g/dL who would

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be convicted under the alcohol per se law), over 40% tested positive for drugs that could have contributed to their impairment.

Another study from Washington State examined 700 drivers suspected of vehicular assault and homicide, showing that over half (51%) tested drug positive (18% for drugs only and 33% for both drugs and alcohol; Logan & Barnes, 2006). One-third (32%) of drivers tested positive for alcohol only. Only 17% of all drivers did *not*

test positive for either one. That is dramatic evidence of the remarkably large contribution of substance use to this serious manifestation of unsafe driving.

Defining a Drugged-Driving Violation

Per Se Drug Laws

A per se law is one that sets a threshold for the presence of a substance, such as the BAC of 0.08 g/dL. This precedent set during the past half century by drunk-driving laws has led to an expectation that impairment thresholds have been established for other psychoactive drugs analogous to the nationally accepted BAC threshold. However, the identification of impairment thresholds for drugs is not possible. Consistent relationships do not exist between drug blood concentrations and impairment (Reisfield et al., 2012). The search for drug impairment thresholds is further complicated by the number of potentially impairing drugs, the common use of combinations of illegal and prescription drugs and alcohol, and individual tolerance. The alternative, establishing arbitrary impairment thresholds, is without merit.

The solution is to use the zero-tolerance per se standard, which defines the presence of an illegal drug as a violation. This approach includes any controlled substance for which the driver does not have a valid prescription. Similarly, drivers under the legal drinking age may be charged with an impaired-driving violation even if their BACs are below 0.08 g/dL because their alcohol use is illegal. The legality of the drug or alcohol use provides a clear line for prosecution when charging drivers who have demonstrated impairment on the roadways.

A valid prescription for a drug identified in an impaired-driving suspect may provide an affirmative defense to the per se law (DuPont et al., 2012). In such cases however, a driver could be successfully prosecuted under impairment laws (as opposed to per se laws) if it can be proven that their observed impairment was caused by the specific prescribed drug identified (Voas et al., 2013).

While all states have laws against drugged driving, only eighteen have per se drugged-driving laws, twelve of which use the zero-tolerance standard; however, the drugs covered under these laws vary (Lacey et al., 2010; Governors Highway Safety Association, 2014). Two states have zero-tolerance per se drug laws specifically for drivers under age twenty-one.

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Driving in States that Have Legalized Marijuana

Recent changes in state policies on the use of marijuana, both for medical and nonmedical (recreational) use, have brought greater attention to the role of marijuana in drugged driving. Data showing the prevalence of marijuana among drivers involved in crashes show that marijuana use doubles the risk of motor vehicle crashes (Li et al., 2012; Asbridge et al., 2013). Impairment from marijuana use can be long-lasting. Even

after three weeks of abstinence, chronic, daily marijuana users can show observable deficits in skills needed for driving (Bosker et al., 2013). Additionally, the effects of marijuana and alcohol are additive such that even low levels of marijuana combined with low levels of alcohol are seriously impairing (Ramaekers et al., 2000). Some states have instituted laws with per se levels for tetrahydrocannabinol (THC), the primary psychoactive ingredient in marijuana, within a driver's system. However, setting a legal threshold for THC does not preclude impairment while driving. Two such states that have created thresholds for THC are Colorado and Washington.

Washington State's Per Se Law

Washington State passed a per se law for marijuana-impaired driving, setting a 5 ng/ml threshold for THC in the blood. Any drivers age twenty-one and older with 5 ng/ml THC or more are in violation. Data from the Washington State Toxicology Laboratory showed that, in 2013, 25% of all drivers arrested for impaired driving tested positive for THC (Couper, 2014). Among these THC-positive drivers, 53% tested at or above 5 ng/ml THC and 47% tested between 2 ng/ml and 5 ng/ml THC.

The recommendation for impaired-driving suspects in Washington who test positive for marijuana above 5 ng/ml THC is that they be prosecuted under the per se law currently in place. Drivers in the state who test positive for marijuana below 5 ng/ml THC should be prosecuted under the impairment law.

Colorado's Permissible Inference Law

In 2013, Colorado passed a *permissible inference* law. Under this law, "A permissible inference allows a judge to instruct a jury that if it finds that a defendant's whole blood contained at least 5 ng/ml of THC while driving or shortly

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thereafter, then the jury may conclude that the defendant was driving under the influence. A permissible inference does not require a jury to conclude that a defendant was driving under the influence when a THC concentration threshold is met. In addition, the jury may consider all of the evidence in the case to evaluate whether the prosecution has proved the offense beyond a reasonable doubt” (Colorado Legislative Council Staff, 2013).

An examination of data collected by the Colorado Department of Public Health and Environment of blood samples taken from impaired-driving suspects in the state showed that in each year from 2009 to 2012 at least 70% of drivers positive for THC (at least 1 ng/ml) tested *below* 5 ng/ml (Wood, 2013). A 2013 phone survey conducted by the Colorado Department of

Many marijuana-positive, impaired-driving suspects, including medical marijuana users, will also test positive for alcohol and other drugs. This makes comprehensive testing of all drivers identified as impaired important.

Transportation revealed that among respondents who reported using marijuana in the past year, 21% reported driving after using marijuana in the past month. Those who drove within two hours of marijuana use did so an average of seventeen times a month (Colorado Department of Transportation, 2014).

The significant percentages of drivers in Washington and Colorado who are arrested for impaired driving and are positive for marijuana but test below 5 ng/ml THC support the conclusion that the 5 ng/ml standard gives a pass to many marijuana-impaired drivers.

Medical Marijuana

Laws on medical marijuana vary dramatically by state, including the way in which impaired drivers who are medical marijuana users are handled. Because marijuana is a Schedule I drug under federal law and

is not approved for medical use by the U.S. Food and Drug Administration, it cannot be prescribed. (Note: marijuana is distinctly different from FDA-approved prescription cannabinoid medications, i.e., Marinol and Cesamet.) Treating impaired-driving suspects who test positive for marijuana and have recommendations from physicians to use medical marijuana the same way as drivers who test positive for prescription drugs for which they have valid prescriptions is recommended. Such drivers may have an affirmative defense under per se drugged-driving laws and, thus, would be prosecuted under impairment laws. In all states with medical marijuana and in the two states with legalized marijuana, commercial drivers remain under federal jurisdiction and, thus, are subject to the zero-tolerance standard.

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Administrative License Revocation

Under administrative license revocation (ALR) laws, law enforcement officers may immediately suspend licenses of individuals arrested for impairment who test at or above 0.08 g/dL BAC or who refuse to provide a biological sample for alcohol testing. ALR has proven to be a successful tool to reduce alcohol-related fatalities and reduce alcohol-impaired driving among suspended drivers. In short, it saves lives (National Transportation Safety Board, 2013; NHTSA, 2003).

Creating ALR laws specific to drugs could similarly address drugged driving. Under such laws, the license of any driver arrested for impaired driving who refuses to provide a sample for drug testing, who tests positive for drugs, or who tests positive for a combination of alcohol and drugs would immediately be suspended (Talpins et al., 2014). The swift and certain imposition of this administrative, rather than criminal, penalty—loss of license—is important in protecting highway safety.

Aggravated Impaired Driving

The evidence that combining alcohol and drugs produces pronounced impairment supports treating drivers who test positive for both differently than those who have an illegal BAC only or those who test positive for drugs only. This is already the case with alcohol. Aggravated impaired driving charges are incurred against drivers whose BACs are twice the legal per se level (although this varies by state) resulting in more severe penalties. Impaired drivers who have both illegal BACs and drugs in their systems should be treated similarly, and a system for testing for drugged driving should become standardly available to law enforcement.

Summary of Drugged-Driving Laws

After arrest and completion of alcohol and drug testing, a suspect is formally prosecuted if sufficient evidence supports a conviction under the variety of state impaired-driving laws. Presently, most drugged-driving offenses are incorporated into impaired-driving statutes, making it difficult to for researchers to distinguish between alcohol- and drug-related impaired-driving offenses with retrospective data analysis. Across all states, drivers with BACs at or above 0.08 g/dL may be prosecuted under per se alcohol laws. Although the majority of states do not have per se drug laws, the approach that would promote highway safety and protect public safety would be to create zero-tolerance, per se drug laws for drivers testing positive for illicit

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or controlled substances for which they do not have valid prescriptions. Drivers demonstrably impaired as evaluated by a law enforcement officer should be prosecuted under impairment laws if they test positive for either alcohol or drugs, even if they have BACs below 0.08 g/dl or test positive for drugs for which they have valid prescriptions. Expanding or creating ALR laws to include drugged driving would offer an important new way to remove drugged drivers from the road pending criminal charges. Use of aggravated impaired-driving laws for when both alcohol and drugs are identified could improve the way in which all impaired drivers are prosecuted.

Widespread Drug Testing Is Essential to Reduce Drugged Driving

Many states do not conduct adequate (or any) drug testing of impaired-driving suspects or fatally injured drivers for various reasons including lack of funding, need for extended training of law enforcement officers, and backlogs of test samples in state toxicology laboratories. These shortfalls need to be identified and resolved so that the collected data can be used to improve laws and policies on drugged driving.

Drug Testing Impaired-Driving Suspects

To successfully implement and enforce drugged-driving laws among impaired-driving suspects, drug testing procedures need to be parallel to those for alcohol testing. Drug testing technology has improved greatly in recent years and continues to evolve making implementing drug testing procedures feasible.

Current Drug Testing Practices

Typically impaired-driving suspects are only tested for alcohol. Adding drug testing to the

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evidentiary alcohol breath testing, which is collected after the arrest for impairment, is possible in practice as demonstrated in a recent pilot study (Logan et al., 2014). To mitigate the added costs of drug testing, some states only administer drug tests to impaired-driving suspects who have low BACs (Compton et al., 2009). In such cases, if a driver produces an illegal BAC of 0.08 g/dL or higher, the testing procedure stops, meaning no drug test is conducted.

The results of oral-fluid tests are quickly obtained and serve as a useful screening tool for identifying samples that require laboratory-based confirmation.

To improve and increase drug-testing procedures for impaired-driving suspects, an increasing number of states are pursuing the use of onsite oral-fluid-drug-testing technology in lieu of collecting urine or blood. The results of oral-fluid tests are quickly obtained and serve as a useful screening tool for identifying samples that require laboratory-based confirmation. Onsite oral-fluid tests are not foolproof in detecting all recent drug use, which is why many states use only laboratory-tested oral-fluid results in evidentiary proceedings.

Confirmatory drug testing required for criminal impaired-driving cases is conducted by state or privately funded laboratories. This can create some difficulties that need addressing. Some state facilities are not adequately funded to take on the additional workloads required to conduct drug tests in a timely fashion. Also, if drug test requisitions are filled out by law enforcement officers and sent to private laboratories, the officers must be educated to know what to ask for in terms of the toxicology.

Which Drugs to Test For

Not all drug testing is equal and not all testing is suitable for highway safety testing, so another issue states must address is which specific drugs to test for on initial screening and confirmatory tests. Testing impaired-driving suspects for every potentially impairing drug is impossible; however, this limitation does not make drug

testing impractical. Most individuals who use obscure drugs simultaneously use common drugs (Wish et al., 2006; 2009), which a routine but small drug test panel will identify. With the growing epidemic of prescription drugs, these tests need to include the most commonly used and potentially impairing prescription drugs (Centers for Disease Control and Prevention, 2012).

While drug testing impaired drivers faces challenges such as which strategies and technologies to use, states should not use these challenges as a reason to avoid implementing testing for drugged driving. The use of any drug testing protocol is better than none. States can improve their systems over time. *DWI and Drug Courts* can play an important role in encouraging sound drug testing procedures and policy, including widespread testing, to identify and reduce drugged driving.

Drug Testing Fatally and Seriously Injured Drivers

To achieve more comprehensive information about the drugged-driving problem, states should add drug testing to the alcohol testing done for fatally and seriously injured drivers. One study reported that only twenty states test at least 80% of drivers involved in fatal crashes for drugs (Romano & Voas, 2011). Even fewer seriously injured drivers are tested for drugs.

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Documenting the prevalence of drugs among both fatally and seriously injured drivers will increase our knowledge about the drugged-driving problem and how it changes over time.

Drug Testing Monitored DWI Offenders

DWI and Drug Courts closely monitor for the use of alcohol and drugs using random drug and alcohol testing among repeat offenders. This offers a model for monitoring all impaired-driving offenders. Given

the largely overlooked overlap of alcohol and drugs among DWI offenders and the additive impairing effects of combined alcohol and drug use, the addition of drug testing to current alcohol monitoring of DWI offenders (including those who are not involved in *DWI Courts*) could provide incentive to refrain from all substance use.

Drugged Driving and Treatment

Each year, 1.2 million impaired-driving arrests are made in the United States (FBI, 2013). Each conviction provides the states and nation with an opportunity to assess, monitor, and refer individuals to treatment. Testing to detect both alcohol and drug use will reveal a more accurate picture of substance use problems among drivers and allow for better treatment. Offenders convicted of DWI are referred to treatment programs that typically treat only known substance use problems. Without a drug test, DWI offenders may only be treated for problems with alcohol even though many are also drug users. Testing for both alcohol and drugs allows drivers more comprehensive treatment based on the level of use and related disorders, promoting successful outcomes.

First-time offenders should not be excluded from both alcohol and drug testing. An evaluation of DWI offenders admitted to substance abuse programs demonstrated that first-time offenders differ greatly in characteristics including substance use problems and other disorders.

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For thousands of Americans each year, an impaired-driving arrest opens a path to recovery. For convicted drivers who do not meet criteria for a substance use disorder, it can provide an educational experience of great value about the risks of excessive use of alcohol and drugs.

The Important Role of DWI and Drug Courts

Both *DWI* and *Drug Courts* use the criminal justice system to promote public safety and public health through therapeutic jurisprudence. As of December 2013, 237 *DWI Courts* and 436 hybrid *DWI/Drug Courts* (which accept both drug and DWI offenders) were in operation in the United States and its territories (Huddleston & Marlowe, in press). Each of the dedicated teams working in these *DWI* and *Drug Courts* has an important opportunity to educate the high-risk population with which they work about the serious threat of drugged driving. *DWI* and

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Drug Court participants are uniquely at risk for drugged driving because of their demonstrated problems with substance use. All DWI and Drug Court participants must understand that driving under the influence of any substance, including drugs, is unsafe and illegal. A special emphasis should be placed on marijuana, which is a largely overlooked threat to highway safety.

DWI and *Drug Courts* can play a vitally important role in promoting drugged-driving enforcement as a major pathway to recovery from all drug-related substance use disorders, similar to that of drunk-driving enforcement and alcohol use disorders. Further, the monitoring of offenders within *DWI* and *Drug Courts* provides a useful model for all impaired drivers.

Drugged-Driving Resources

Many resources are easily accessible and routinely updated online with information about drugged driving and on best practices in the identification, intervention, and management of drugged driving. Here are a few to start with:

- StopDruggedDriving.org
- StopDUID.org
- Whitehouse.Gov/Ondcp/Drugged-Driving
- WeSaveLives.org
- TrafficSafetyGuy.com

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NADCP

**National Association of
Drug Court Professionals**

About NADCP

It takes innovation, teamwork and strong judicial leadership to achieve success when addressing drug-using offenders in a community. That's why since 1994 the National Association of Drug Court Professionals (NADCP) has worked tirelessly at the national, state and local level to create and enhance Drug Courts, which use a combination of accountability and treatment to compel and support drug-using offenders to change their lives.

Now an international movement, Drug Courts are the shining example of what works in the justice system. Today, there are over 2,800 Drug Courts operating in the U.S., and another thirteen countries have implemented the model. Drug Courts are widely applied to adult criminal cases, juvenile delinquency and truancy cases, and family court cases involving parents at risk of losing custody of their children due to substance abuse.

Drug Court improves communities by successfully getting offenders clean and sober and stopping drug-related crime, reuniting broken families, intervening with juveniles before they embark on a debilitating life of addiction and crime, and reducing impaired driving.

In the 25 years since the first Drug Court was founded in Miami/Dade County, Florida, more research has been published on the effects of Drug Courts than on virtually all other criminal justice programs combined. The scientific community has put Drug Courts under a microscope and concluded that Drug Courts significantly reduce drug abuse and crime and do so at far less expense than any other justice strategy.

Such success has empowered NADCP to champion new generations of the Drug Court model. These include Veterans Treatment Courts, Reentry Courts, and Mental Health Courts, among others. Veterans Treatment Courts, for example, link critical services and provide the structure needed for veterans who are involved in the justice system due to substance abuse or mental illness to resume life after combat. Reentry Courts assist individuals leaving our nation's jails and prisons to succeed on probation or parole and avoid a recurrence of drug abuse and crime. And Mental Health Courts monitor those with mental illness who find their way into the justice system, many times only because of their illness.

Today, the award-winning NADCP is the premier national membership, training, and advocacy organization for the Drug Court model, representing over 27,000 multi-disciplinary justice professionals and community leaders. NADCP hosts the largest annual training conference on drugs and crime in the nation and provides 130 training and technical assistance events each year through its professional service branches, the **National Drug Court Institute**, the **National Center for DWI Courts** and **Justice for Vets: The National Veterans Treatment Court Clearinghouse**. NADCP publishes numerous scholastic and practitioner publications critical to the growth and fidelity of the Drug Court model and works tirelessly in the media, on Capitol Hill, and in state legislatures to improve the response of the American justice system to substance-abusing and mentally ill offenders through policy, legislation, and appropriations.

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